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JUN 24 2003

TECH CENTER 1600/2900



1600

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/776,705B

DATE: 06/19/2003

TIME: 10:34:

Input Set : A:\1010 SEQ LISTING.TXT

Output Set: N:\CRF4\06192003\I776705B.raw

1 4110 APPLICANT: Karl GUESLER et al.
 2 4120 TITLE OF INVENTION: ISOLATED HUMAN TRANSPORTER PROTEINS,
 3 NUCLEOTIC ACID MOLECULES ENCODING HUMAN TRANSPORTER PROTEINS,
 4 AND USES THEREOF
 5 4130 FILE REFERENCE: C1001010
 6 4140 CURRENT APPLICATION NUMBER: 09/776,705B
 7 4150 CURRENT FILING DATE: 2001-02-06
 8 4160 PRIOR APPLICATION NUMBER: 00/351,830
 9 4170 PRIOR FILING DATE: 2000-12-08
 10 4180 NUMBER OF SEQ ID NOS: 38
 11 4190 SOFTWARE: FastSeq in Windows Version 4.0
 12 4200 SEQ ID NO: 1
 13 4210 LENGTH: 1820
 14 4220 TYPE: DNA
 15 4230 ORGANISM: Homo Sapiens
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PATENT APPLICATION: US/09/776,705B

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69 Ser Glu Lys Ala Ala Met Ser Ser Gln Phe Ala Asn Glu Asp Thr Glu
70      35      40      45
71 Ser Gln Lys Phe Leu Thr Asn Gly Phe Leu Gly Lys Lys Lys Leu Ala
72      50      55      60
73 Asp Tyr Ala Asp Glu His His Pro Gly Thr Thr Ser Phe Gly Met Ser
74      65      70      75      80
75 Ser Phe Asn Leu Ser Asn Ala Ile Met Gly Ser Gly Ile Leu Gly Leu
76      85      90      95
77 Ser Tyr Ala Met Ala Tyr Thr Gly Val Ile Leu Phe Ile Ile Met Leu
78      100     105     110
79 Leu Ala Val Ala Ile Leu Ser Leu Tyr Ser Val His Leu Leu Leu Lys
80      115     120     125
81 Thr Ala Lys Glu Gly Gly Ser Leu Ile Tyr Glu Lys Leu Gly Glu Lys
82      130     135     140
83 Ala Phe Gly Trp Pro Gly Lys Ile Gly Ala Phe Val Ser Ile Thr Met
84      145     150     155     160
85 Gln Asn Ile Gly Ala Met Ser Ser Tyr Leu Phe Ile Ile Lys Tyr Glu
86      165     170     175
87 Leu Pro Glu Val Ile Arg Ala Phe Met Gly Leu Glu Glu Asn Thr Gly
88      180     185     190
89 Glu Trp Tyr Leu Asn Gly Asn Tyr Leu Ile Ile Phe Val Ser Val Gly
90      195     200     205     210
91 Ile Ile Leu Pro Leu Ser Leu Leu Lys Asn Leu Gly Tyr Leu Gly Tyr
92      215     220
93 Thr Ser Gly Phe Ser Leu Thr Cys Met Val Phe Phe Val Ser Val Val
94      225     230     235     240
95 Ile Tyr Lys Lys Phe Gln Ile Pro Cys Pro Leu Pro Val Leu Asp His
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97 Ser Val Gly Asn Leu Ser Phe Asn Asn Thr Leu Pro Met His Val Val
98      260     265     270
99 Met Leu Pro Asn Asn Ser Glu Ser Ser Asp Val Asn Ile Met Met Asp
100      275     280     285
101 Tyr Thr His Arg Asn Pro Ala Gly Leu Asp Glu Asn Gln Ala Lys Gly
102      290     295     300
103 Ser Leu His Asp Ser Gly Val Glu Tyr Glu Ala His Ser Asp Asp Lys
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DATE: 06/19/2003

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Input Set : A:\1010 SEQ LISTING.TXT

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110 Tyr Ser Glu Leu Lys Asn Arg Ser Arg Arg Lys Met Gln Thr Val Ser
111           355           360           365
112 Asn Ile Ser Ile Thr Gly Met Leu Val Met Tyr Leu Leu Ala Ala Leu
113           370           375           380
114 Phe Gly Tyr Leu Thr Phe Tyr Gly Glu Val Glu Asp Glu Leu Leu His
115 335           390           395           400
116 Ala Tyr Ser Lys Val Tyr Thr Leu Asp Ile Pro Leu Leu Met Val Arg
117           405           410           415
118 Leu Ala Val Leu Val Ala Val Thr Gln Thr Val Pro Ile Val Leu Phe
119           420           425           430
120 Pro Ile Arg Thr Ser Val Ile Thr Leu Leu Phe Pro Lys Arg Pro Phe
121           435           440           445
122 Ser Trp Ile Arg His Phe Leu Ile Ala Ala Val Leu Ile Ala Leu Asn
123 450           455           460
124 Asn Val Leu Val Ile Leu Val Pro Thr Ile Lys Tyr Ile Phe Gly Phe
125 465           470           475           480
126 Ile Gly Ala Ser Ser Ala Thr Met Leu Ile Phe Ile Leu Pro Ala Val
127           485           490           495
128 Phe Tyr Leu Lys Leu Val Lys Lys Glu Thr Phe Arg Ser Pro Gln Lys
129 500           505           510
130 Val Gly Ala Leu Ile Phe Leu Val Val Gly Ile Phe Phe Met Ile Gly
131 515           520           525
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133 530           535           540
134 Lys His His
135 545

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136 <10> SEQ ID NO: 3

139 <11> LENGTH: 32373

140 <12> TYPE: DNA

141 <13> ORGANISM: Homo Sapiens

142 <14> SEQUENCE: 3

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145 tctatagaa gaaagacaag ctttttgatt gggcgtcttg catgctgagt atgatgaatt 180
146 ttaaaagcga ctacacata gtcaagtctg gatgaaagga taaggataaa aattctgaaa 240
147 tctcagaaa accatcgata aattatctat aaagaaataa gagccagact catcaataga 300
148 agctagaaga gagaagtctt ttcaatattc tgaaggaaaa tgcttttgaa tctagaattc 360
149 aaacaattaa caaagtttga aggcataata aagaattttc caacatgaag caactcagaa 420
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151 ataatgcaaa ataaactgaa gaaagaagat agaattgcct tcaagaaaact agcagctgag 540
152 caagaactcag aggttgaggg aggaagccat tcagaatgag aaagagcata gaaaatttgc 600
153 ttcaaaagt ttggtaatat agaattatat ttcaattatt atgtagtcaa atacaccact 660
154 tigtctttag ggcatactat ttatacagtg ataatactgt aattgtgtgt tattggtttt 720
155 ccattgttag aaacaacctc caggcaagtt atgacacttg ttccacagaa caagatgaaa 780
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RAW SEQUENCE LISTING

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120 ttaagtaac aagctaaaaa cagaaaacgt caatagtqgt tgcctctggg aagtggagat 330
121 ggtactgtgt gaagaatgag gaaaaacgtt gtaactcaat agtgagcttc tttttttt 340
122 tttttaccca tatccatgct ttaactctat tctctcttag ctttaaacct cctctcttct 350
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128 caagatctg tcttctaat ttataaqtct tctctcagct gactttttt caatctctat 410
129 gactctattt tttctctct ttaagaatt cctctctctg atctctctg caacagctg 420
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Output Set : N:\CRF4\06192003\I776705B.raw

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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/776,705B

DATE: 06/19/2003

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Output Set: N:\CRF4\06192003\I776705B.raw

JUN 24 2003

TECH CENTER



1600

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/895,041C

DATE: 06/19/2003

TIME: 10:42:23

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3 41108 APPLICANT: DEVELOPMENT CENTER FOR BIOTECHNOLOGY
4 SCU-PEI, WU
6 41208 TITLE OF INVENTION: A NOVEL PHENYLALANINE AMINOTRANSFERASE AND ITS USE
8 41308 PILE REFERENCE: US-2001-0041108
10 41408 CURRENT APPLICATION NUMBER: US 09/895,041C
11 41408 CURRENT FILING DATE: 2001-06-29
12 41508 NUMBER OF SEQ ID NOS: 11
13 41608 SOFTWARE: PatentIn version 3.1
14 42108 SEQ ID NO: 1
15 42111 LENGTH: 1199
16 42112 TYPE: DNA
17 42113 ORGANISM: Escherichia coli
18 42114 SEQUENCE: 1

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65 ggaatggctc aggaatttgt gaaggtatta agcacagaga tgcagagaac caatttcgat      1020
67 tatctgctta atcagcggcg catgttcagt tataccgggt taagtgcgcg tcaagtttga      1080
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66 42112 TYPE: DNA
67 42113 ORGANISM: Escherichia coli
68 42114 SEQUENCE: 2

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70 atgtttttaa aaatttgagg ctatgttgcc gaacccgatto ttaagcttat ggagcgtttt      60
72 aaagaagacc ctggcaggga caaagtgaat ttaagtatcg gtctgtacta caacgaagac      120
74 ggaatttatt caaaactgca agcgttgagg gaggcggaag cgcgcctgaa tggcagacct      180
76 catggcgctt cgttttatt accgatggaa gggcttaact gctatcgcca tgcatttgcc      240
78 ctctgtctgt ttggtggcga ccattccggt ctgaaacaac agcgcgttagc aaccattcaa      300
```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/895,041C

DATE: 06/19/2003

TIME: 10:32:23

Input Set : A:\AP09895041JUN1003.txt

Output Set : N:\CRF4\06192003\I895041C.raw

```

30 acccttcttg gctccggggc attgaaagtq ggcggcgatt tccgaaaacg ctacttcccg 360
32 gaatttatt gctgggtcag cgtacctacc tgggaaaacc acgtagcaat attcgccggg 420
34 gcttaattg aagtgaqtac ttacctctgg tatgacgaag cgaactaacg cgtggcgttt 480
36 aatctctct tgcgacgct gaaaacatta cctgcgccga giatigtgtt gctgcateca 540
38 tcttcccca accgaagg tgcgacatc actaatgac agtgggatgc ggtgattgaa 600
40 atttccag cctggagct tattccattc ctccatattg cctatcaagg atttggtgac 660
42 gtttgtag agatgacct cgtattccg gccattgcca ggcgtggatt acccgctctg 720
44 tggacattt ggttcggaa aattttctcc ctttacggcg agcgcgtcgg cggactttct 780
46 atttgtag aatctgcga agccgctgga cgcgtactgg gccaattgaa agcaacagtt 840
48 tcttccatt accgaagcc gccgaatttt ggtgcgcagg tggtggtgac agtgcctgaat 900
50 caaactat taaagccag ctggctggcg gaagtgaag agatgcgtac tgcattctg 960
52 cctatccc accaattggt gaaggtatta agcacagaga tgcacgaacg caatttcgat 1020
54 tcttcccca at agcggcg catgttcagt talaccggtt taagtgcgcg tcaggttgac 1080
56 agatctcag acaatttgg tgcctatctc atgcgcagcg gtcgcagtgt tgcctccggg 1140
58 tcttcccca accgaagca acgtgtgcca aaggcgtttg ctgcgggtgat gtaatgctc 1199
111-111-LENGTH: 14
111-111-TYPE: DNA
111-111-ORGANISM: Escherichia coli
111-400-SEQUENCE: 3
111-111-SEQ ID NO: 3
111-111-LENGTH: 10
111-111-TYPE: DNA
111-111-ORGANISM: Escherichia coli
111-400-SEQUENCE: 4
111-111-SEQ ID NO: 4
111-111-LENGTH: 10
111-111-TYPE: DNA
111-111-ORGANISM: Escherichia coli
111-400-SEQUENCE: 5
111-111-SEQ ID NO: 5
111-111-LENGTH: 10
111-111-TYPE: DNA
111-111-ORGANISM: Escherichia coli
111-400-SEQUENCE: 6
111-111-SEQ ID NO: 6
111-111-LENGTH: 18
111-111-TYPE: DNA
111-111-ORGANISM: Escherichia coli
111-400-SEQUENCE: 7
111-111-SEQ ID NO: 7
111-111-LENGTH: 14
111-111-TYPE: DNA
111-111-ORGANISM: Escherichia coli
111-400-SEQUENCE: 8
111-111-SEQ ID NO: 8
111-111-LENGTH: 14
111-111-TYPE: DNA
111-111-ORGANISM: Escherichia coli

```


RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/895,041C

DATE: 06/19/2003

TIME: 10:22:23

Input Set : A:\AP09895041JUN1003.txt

Output Set: N:\CRF4\06192003\I895041C.raw

```

161 <400> SEQUENCE: 9
162 accatgac cttattccaa cctc
165 <111> SEQ ID NO: 9
166 <111> LENGTH: 1199
167 <111> TYPE: DNA
168 <111> ORGANISM: Escherichia coli
169 <400> SEQUENCE: 9
170 atgittcaca aagttuagc ctaagctggc gaccogatto ttaagttat ggagcgtttt
171 aaagaagac ctgcgcgga caaagttaat ttaagtatcg gtctgtacta caacgaagac
172 gaattatc caaaactgca agcctggcg gagcggaag cgcgcctgaa tgcgcagcct
173 cctgcggtt cgttttattt accgatggaa ggccttaact gctatcgca tgcattggc
174 cgtctgctt ttgtggga ccatcggta ctgaaacaa acgcctagc aacattcaa
175 cctctggcg gctcagggc attgaaagt ggcgcggtt tctgaaag ctaattccg
176 gaatcagcg tctggtag cgtcttacc tgggaaac acgtagcaat attgcggcg
177 gctgcattg aagtgatc ttaacccgg tatgacga cgaactaagg cgtgcgctt
178 atgacatc ttgcgcgt gaaaacatt cctgcgcga gtattgtgt gtgcatca
179 tcttccaa aacaaagg tgcgatctt actaatgat agtggtatg ggtgattga
180 atttcacag ccgcgcgct tattccatt ctgcatttg ctatcaagg atttggtgc
181 ggtatgaa agaatccca cgtatttgc gccattgca cgcctggat accgcctgc
182 cgcgaatt cgtctgaa aattttctc cttaacggc agcgcctgc cgaatttct
183 tttgtgtg cgtctgaa agcgcctgc cgcctactg gcaattgaa agcaicagt
184 ccgcgaatt acgcgcgc gcgaatttt ggtgcgag tctgtctgc agtgatgat
185 gacgagcct tgaagcag ctggtgcgc gaagttag agatcgta tgcattctg
186 gaatgcgc agaatctgt gaagtatta agcacagaa tgcacaac caatttcgat
187 tatctctta atcagcgc cagtctcgt tataccggt taagtccgc tcaggtgac
188 cgaactcgt aagaatttg tctctatct atcgcgcgc gtcgatgtg tctgcgcgc
189 taaatacgc caattgtca acgctgaca aagcgtttg ctgcgtgat gtaatgctc
190 <210> SEQ ID NO: 10
191 <211> LENGTH: 397
192 <212> TYPE: PPT
193 <213> ORGANISM: Escherichia coli
194 <400> SEQUENCE: 10
195 Met Phe Gln Lys Val Asp Ala Tyr Ala Gly Asp Pro Ile Leu Thr Leu
196 1 5 10 15
197 Met Glu Arg Phe Lys Glu Asp Pro Arg Ser Asp Lys Val Asn Leu Ser
198 20 25 30
199 Ile Gly Leu Tyr Tyr Asn Glu Asp Gly Ile Ile Pro Gln Leu Gln Ala
200 35 40 45
201 Val Ala Glu Ala Glu Ala Arg Leu Asn Ala Gln Pro His Gly Ala Ser
202 50 55 60
203 Leu Tyr Leu Pro Met Glu Gly Leu Asn Cys Tyr Arg His Ala Ile Ala
204 65 70 75 80
205 Ser Leu Leu Phe Gly Ala Asp His Pro Val Leu Lys Gln Gln Arg Val
206 85 90 95
207 Ala Thr Ile Glu Thr Leu Gly Gly Ser Gly Ala Leu Lys Val Gly Ala
208 100 105 110
209 Asp Phe Leu Lys Arg Tyr Phe Pro Glu Ser Gly Val Trp Val Ser Asp
210 115 120 125
211 Pro Thr Trp Glu Asn His Ala Ala Ile Phe Ala Gly Ala Gly Phe Glu

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/895,041C

DATE: 06/19/2003

TIME: 10:32:23

Input Set : A:\AP09895041JUN1003.txt

Output Set: N:\CRF4\06192003\I895041C.raw

```

152      130      135      140
155 Val Ser Thr Tyr Pro Trp Tyr Asp Glu Ala Thr Asn Gly Val Arg Phe
156 145      150      155      160
159 Asn Asp Leu Leu Ala Thr Leu Lys Thr Leu Pro Ala Arg Ser Ile Val
160      165      170      175
163 Leu Leu His Pro Cys Cys His Asn Pro Thr Gly Ala Asp Leu Thr Asn
164      180      185      190
167 Asp Gln Trp Asp Ala Val Ile Glu Ile Leu Lys Ala Arg Glu Leu Ile
168      195      200      205
171 Pro Phe Leu Asp Ile Ala Tyr Gln Gly Phe Gly Ala Gly Met Glu Glu
172      210      215      220
175 Asp Ala Tyr Ala Ile Arg Ala Ile Ala Ser Ala Gly Leu Pro Ala Leu
176 205      230      235      240
179 Val Ser Asn Ser Phe Ser Lys Ile Phe Ser Leu Tyr Gly Glu Arg Val
180      245      250      255
183 Gly Gly Leu Ser Val Met Cys Glu Asp Ala Glu Ala Ala Gly Arg Val
184      260      265      270
187 Leu Gly Gln Leu Lys Ala Thr Val Arg Arg Asn Tyr Ser Ser Pro Pro
188      275      280      285
191 Asn Phe Gly Ala Gln Val Val Ala Ala Val Leu Asn Glu Glu Ala Leu
192      290      295      300
195 Lys Ala Ser Trp Leu Ala Glu Val Glu Glu Met Arg Thr Arg Ile Leu
196 305      310      315      320
199 Ala Met Arg Gln Glu Leu Val Lys Val Leu Ser Thr Glu Met Pro Glu
200      325      330      335
203 Arg Asn Phe Asp Tyr Leu Leu Asn Gln Arg Gly Met Phe Ser Tyr Thr
204      340      345      350
207 Gly Leu Ser Ala Ala Gln Val Asp Arg Leu Arg Glu Glu Phe Gly Val
208      355      360      365
211 Tyr Leu Ile Ala Ser Gly Arg Met Cys Val Ala Gly Leu Asn Thr Ala
212      370      375      380
215 Asn Val Gln Arg Val Ala Lys Ala Phe Ala Ala Val Met
216 385      390      395
219 <210> SEQ ID NO: 11
220 <211> LENGTH: 397
221 <212> TYPE: PRT
222 <213> ORGANISM: Escherichia coli
223 <214> SEQUENCE: 11
226 Met Phe Gln Lys Val Asp Ala Tyr Ala Gly Asp Pro Ile Leu Thr Leu
227 1      5      10      15
230 Met Glu Arg Phe Lys Glu Asp Pro Arg Ser Asp Lys Val Asn Leu Ser
231      20      25      30
234 Ile Gly Leu Tyr Tyr Asn Glu Asp Gly Ile Ile Pro Gln Leu Gln Ala
235      35      40      45
238 Val Ala Glu Ala Glu Ala Arg Leu Asn Ala Gln Pro His Gly Ala Ser
239      50      55      60
242 Leu Tyr Leu Pro Met Glu Gly Leu Asn Cys Tyr Arg His Ala Ile Ala
243 65      70      75      80
246 Pro Leu Leu Phe Gly Ala Asp His Pro Val Leu Lys Gln Gln Arg Val

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/895,041C

DATE: 06/19/2003

TIME: 10:32:23

Input Set : A:\AP09895041JUN1003.txt

Output Set: N:\CRF4\06192003\I895041C.raw

```

347      85      90      95
350 Ala Thr Ile Gln Thr Leu Gly Gly Ser Gly Ala Leu Lys Val Gly Ala
361      100      105      110
364 Asp Phe Leu Lys Arg Tyr Phe Pro Glu Ser Gly Val Trp Val Ser Asp
375      115      120      125
378 Pro Thr Trp Glu Asn His Val Ala Ile Phe Ala Gly Ala Gly Phe Glu
389      130      135      140
392 Val Ser Thr Tyr Pro Trp Tyr Asp Glu Ala Thr Asn Gly Val Arg Phe
393 145      150      155      160
396 Asn Asp Leu Leu Ala Thr Leu Lys Thr Leu Pro Ala Arg Ser Ile Val
397      165      170      175
399 Leu Leu His Pro Cys Cys His Asn Pro Thr Gly Ala Asp Leu Thr Asn
400      180      185      190
403 Asp Gln Trp Asp Ala Val Ile Glu Ile Leu Lys Ala Arg Glu Leu Ile
405      195      200      205
408 Pro Phe Leu Asp Ile Ala Tyr Gln Gly Phe Gly Ala Gly Met Glu Glu
409      210      215      220
412 Asp Ala Tyr Ala Ile Arg Ala Ile Ala Ser Ala Gly Leu Pro Ala Leu
413 225      230      235      240
416 Val Ser Asn Ser Phe Ser Lys Ile Phe Ser Leu Tyr Gly Glu Arg Val
417      245      250      255
420 Gly Gly Leu Ser Val Met Cys Glu Asp Ala Glu Ala Ala Gly Arg Val
421      260      265      270
424 Leu Gly Gln Leu Lys Ala Thr Val Arg Arg Asn Tyr Ser Ser Pro Pro
425      275      280      285
428 Asn Phe Gly Ala Gln Val Val Ala Ala Val Leu Asn Asp Glu Ala Leu
429      290      295      300
432 Lys Ala Ser Trp Leu Ala Glu Val Glu Glu Met Arg Thr Arg Ile Leu
433 305      310      315      320
436 Ala Met Arg Gln Glu Leu Val Lys Val Leu Ser Thr Glu Met Pro Glu
437      325      330      335
440 Arg Asn Phe Asp Tyr Leu Leu Asn Gln Arg Gly Met Phe Ser Tyr Thr
441      340      345      350
444 Gly Leu Ser Ala Ala Gln Val Asp Arg Leu Arg Glu Glu Phe Gly Val
445      355      360      365
448 Tyr Leu Ile Ala Ser Gly Arg Met Cys Val Pro Gly Leu Asn Thr Ala
449      370      375      380
452 Asn Val Gln Arg Val Ala Lys Ala Phe Ala Ala Val Met
453 385      390      395

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/895,041C

DATE: 06/19/2003

TIME: 10:32:24

Input Set : A:\AP09895041JUN1003.txt

Output Set: N:\CRF4\06192003\I895041C.raw